# Excel Graphing Addenium

Scatter Chart

Scatter charts are great for showing data when you don't have a well defined (or non-existent!) interval on the X axis. This is the main difference between a line chart and the scatter chart.

A scatter chart always has two value axes to show one set of numerical data along a horizontal (value) axis and another set of numerical values along a vertical (value) axis. The chart displays points at the intersection of an x and y numerical value, combining these values into single data points.

For example, let's examine how the same daily rainfall and particulate data of the following worksheet is displayed in a Scatter chart and a Line chart.

	A	B
1	Daily Rainfall	Particulate
2	4.1	122
3	4.3	117
4	5.7	112
5	5.4	114
6	5.9	110
7	5.0	114
8	3.6	128
9	1.9	137
10	7.3	104
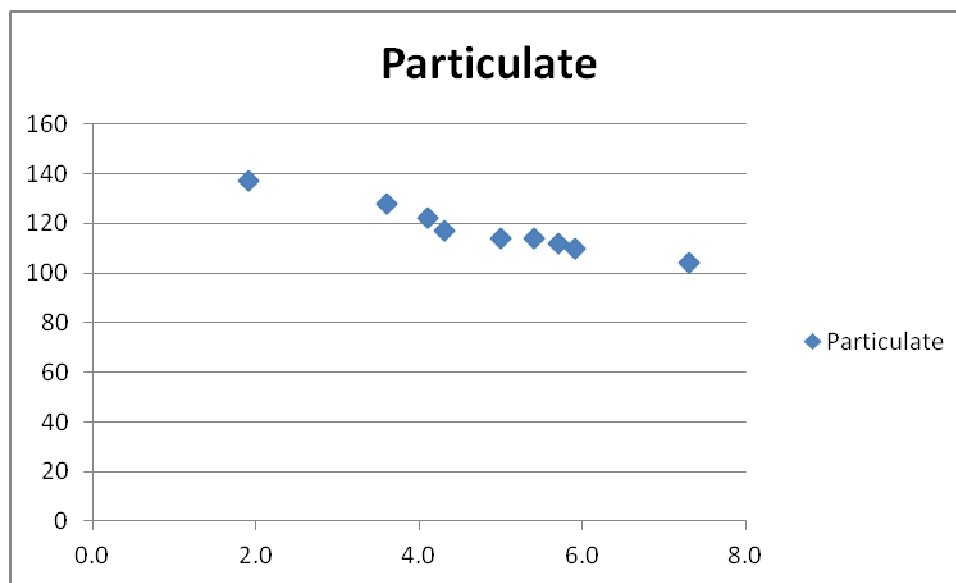
 The first data point to appear in the Scatter chart represents both a y-value of 137 (particulate) and an x-value of 1.9 (daily rainfall). These numbers come from both columns of row 9 on the worksheet.

- The x-axis of a Scatter chart can only be a value axis. This means that only numeric data is displayed on this axis. To display this numeric data with greater flexibility, you can change the scaling options on this axis.
- The x-axis of a Line chart can be either a category or a time axis, both of which can display non-numeric data. Depending on which data is used, the scaling options are limited compared to the scaling options of the Scatter chart's x (value) axis.

Creating a Bubble Chart

A Bubble chart is a variation of a Scatter chart in which the data points are replaced with bubbles. A Bubble chart can be used instead of a Scatter chart if your data has three data series, each of which contains a set of values. For example, the worksheet in the following picture contains values for three types of data: number of products, dollar value of sales, and percentage size of market share.
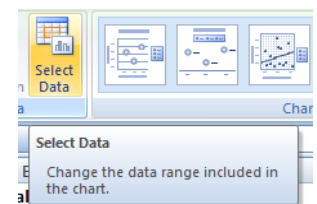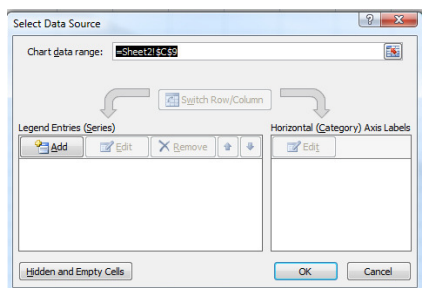
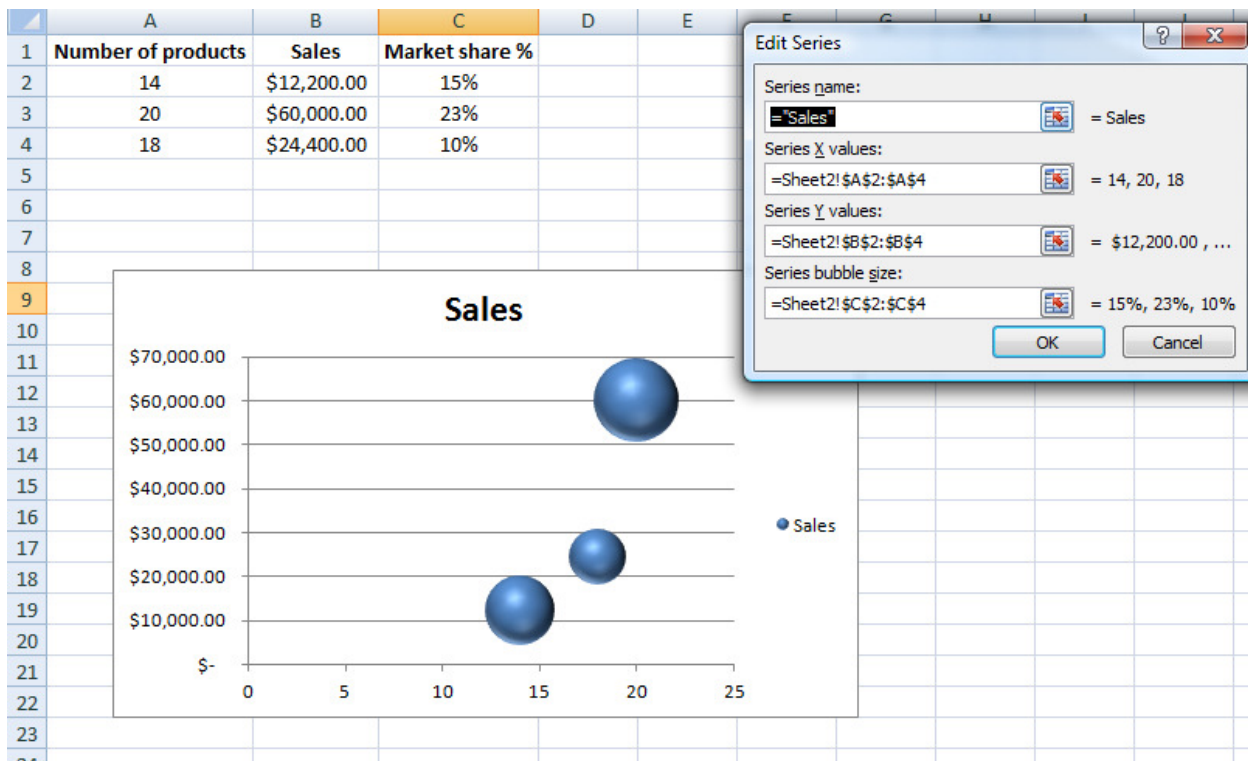|	A	B	C
1	**Number of products**	**Sales**	**Market share %**
2	14	$12,200.00	15%
3	20	$60,000.00	23%
4	18	$24,400.00	10%
5			
6			
7			
8			

In a Bubble chart, the size of the bubbles is determined by the values in the third data series. For example, the following Bubble chart displays bubble sizes that correspond to the values in the third column of the sample data (Market share %).

Creation of a Bubble Chart

Now, I've never been able to get the computer to figure out the correct locations for the numbers when creating a chart automatically. So – here is the step-by-step way of creating a new Bubble Chart.

- Click anywhere on the sheet (off the data)
- Insert->Other Charts -> Bubble
- You get a blank chart
- Click on Select data
- Add Under Legend Entries click add
- Select the data for the appropriate locations

	A	B	C	D	E
1	Number of products	Sales	Market share %		
2	14	$12,200.00	15%		
3	20	$60,000.00	23%		
4	18	$24,400.00	10%		

Edit Series

Series name:
="Sales"   = Sales

Series X values:
=Sheet2!$A$2:$A$4   = 14, 20, 18

Series Y values:
=Sheet2!$B$2:$B$4   = $12,200.00 , ...

Series bubble size:
=Sheet2!$C$2:$C$4   = 15%, 23%, 10%

OK   Cancel

Sales

Surface Chart

A Surface chart shows a three dimensional surface that connects a set of data points. A Surface chart is useful when you want to find optimum combinations between two sets of data. Like a topographic map, the colors and patterns in a Surface chart indicate areas that contain the same range of values. Unlike other chart types, colors in a surface chart are not used to distinguish each data series. Instead, colors are used to distinguish the values.

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- Select only the data that you would like to graph (not series labels)
- Insert->Other Charts->Surface (Series1…Series5?)
- Click on the Chart
- Select Axis
- Click on Series1 and Edit
- Select the cell that contains the series name
- Do for all the rest

Tensile Strength Measurements
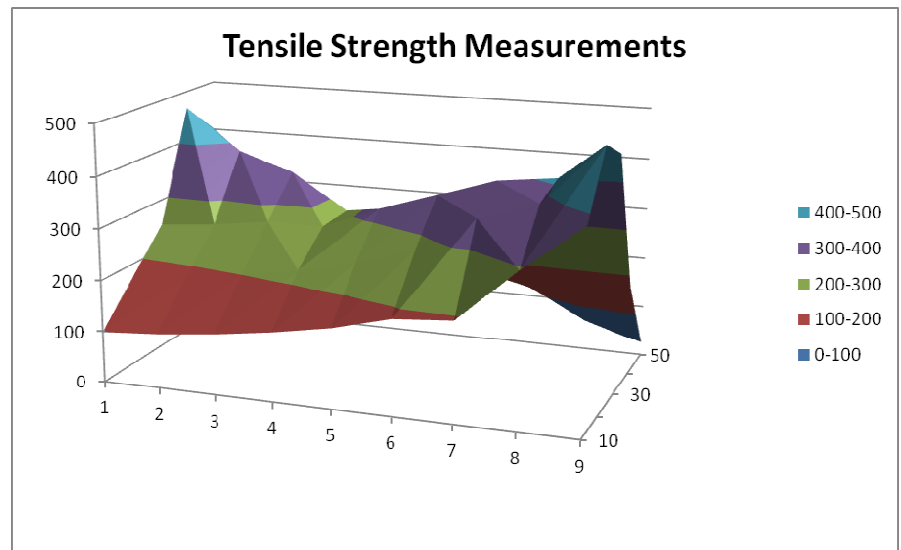
Look at it from the top!

Change Chart Type->Contour

Tensile Strength Measurements